

International Conference on String Field Theory and String Perturbation Theory



Contribution ID: 26

Type: **not specified**

Crossing symmetry in superstring theory

Friday, 10 May 2019 11:00 (30 minutes)

We prove crossing symmetry of superstring amplitudes to all orders in perturbation theory. This is achieved by showing that the Green functions are analytic in a specific region of the complex momentum space ("primitive domain") and making use of results from Bros, Epstein and Glaser. The original derivation relies on locality and causality of the underlying QFT in position space: since this representation is not available in string theory due to the non-locality of the interactions, analyticity is obtained directly in momentum space. By reversing the argument, this teaches important facts on the nature of the QFT describing string theory.

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Session Classification: Talks